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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,038	03/26/2004	Daniel F. Justin	MLI-05 NPROV	9538

7590 06/10/2005

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EXAMINER

SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,038

Applicant(s)

JUSTIN ET AL.

Examiner

Jason L. Savage

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-27 is/are allowed.
- 6) ☒ Claim(s) 28-32 is/are rejected.
- 7) ☒ Claim(s) 33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06212004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Takano (US 5,611,306 A).

Takano teaches a hard facing surface produced by the method of depositing a layer onto the surface of a base metal wherein the deposition is enacted by using a laser beam (col. 2, ln. 21-32). The layer deposited is a cobalt alloy comprising Chromium as well as carbon (col. 3, ln. 36-51) which meets the limitation that the alloy is a Co-Cr alloy bearing material.

Regarding the limitation that the article formed is a medical implant device, given that the reference teaches the same base metal substrate, coated with the same Co-Cr alloy by a laser based deposition process, it would be considered to be suitable for use as a medical implant device as much as the Co-Cr coated metal substrate claimed by Applicant.

Regarding the limitation in claim 29, the teaching that a laser beam is used to weld deposit the layer onto the base metal is taken as a teaching that the Co-Cr material is melted and allowed to cool quickly. Furthermore, since Takano teaches that the layer forms a hard-facing surface, the limitation that a small grain structure which

Art Unit: 1775

exhibits increased hardness in the layer would be present in the alloy formed by the method of Takano as well,

Regarding the limitation in claim 30, since carbon is contained in the Co-Cr layer, it would also result in the formation of carbon interspersions such as is claimed by Applicant. Furthermore, Takano teaches that carbon is added to ensure hardness and abrasion resistant of the formed bearing surface (col. 4, ln. 54-62) which is taken as a teaching that carbon reacts in the manner claimed by Applicant and that the layer has a hardness greater than the metal base structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takano (US 5,611,306 A).

Takano teaches what is set forth above but it is silent to using the claimed materials as the base metal. However, it would have been within the level of one of ordinary skill in the art to recognize that the hardfacing laser deposited Co-Cr alloy of Takano could be applied to a wide variety of substrate materials with a reasonable expectation of success. Absent a teaching of the criticality or showing of unexpected

Art Unit: 1775

results of the claimed base metal materials, they would not provide a patentable distinction over the prior art.

Allowable Subject Matter

Claims 1-27 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art such as Davidson (US 5,498,302) teaches implants formed of biomedical compatible metal substrate materials comprising a strengthened or hardened surface coatings composed of a variety of materials including cobalt chromium alloys (5, line 5-35). Davidson teaches that the coatings are to be applied by plasma spray methods wherein minimal heating occurs to the base material (col. 5, ln. 21-27). Brenner et al. (US 6,410,125) and related are teaches an implant having a multilayer coating formed thereon wherein the outer coating is formed from a ceramic material such as a hard amorphous carbon layer. Cotell et al (US 5,242,706) teaches forming an implant by depositing a coating of a ceramic material onto a substrate by a laser based deposition method (abstract).


The prior art does not teach or suggest an implant or medical device wherein at least a two layer coating is formed on a metal based substrate wherein each layer is deposited by a laser based metal deposition.

Art Unit: 1775

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason Savage
6-1-05



DEBORAH JONES
SUPERVISORY PATENT EXAMINER